

REMARKS:

In the final Office Action mailed December 12, 2006 and prior to filing the RCE, Claims 21, 24 and 25 have been rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. The Examiner states that Claim 21 recites a first coating layer that comprises an epoxy, urethane, acryl, nitrocellulose, etc. and mixtures thereof and contends that the specification does not adequately describe "*mixtures thereof*". By way of this Amendment, Claims 21, 24 and 25 have been amended to remove the phrase "*mixtures thereof*". In view of the foregoing, it is respectfully requested that the rejection of Claims 21, 24 and 25 be reconsidered and withdrawn.

In the final Office Action mailed December 12, 2006, Claims 23 and 24 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly claim the invention. In particular, since Claims 23 and 24 use the term "*type*" to describe the solvent diluted rubbery coating of the invention, the Examiner contends it is not clear what elements are actually included in this term. By way of this amendment, the term "*type*" has been deleted from Claims 23 and 24 and therefore it is respectfully requested that the rejection of Claims 23 and 24 under 35 U.S.C. § 112, second paragraph be reconsidered and withdrawn.

In making the art rejections in the final Office Action mailed December 12, 2006, the Examiner has once again applied Bilder et al. and Crites against the claimed invention as prior art. Therefore, prior to discussing the art rejections, the Applicants believe that a brief summary of the invention might be helpful.

The present invention is directed to, in the broadest sense, a coating for the inspection of a crack in a structure comprising a first and second coating layer. The first coating layer having dispersed therein microcapsules containing a visualizing liquid sealed within, which is released upon rupturing. The coating also comprises a second coating layer disposed underneath said first coating layer that is transparent and flexible enough so that cracks are prevented from forming in the second coating layer even upon cracking in the first coating layer. In one embodiment of the present invention, (claim 2), the second coating layer is at least 17 times more flexible than the first coating layer and is therefore more likely not to crack even upon cracking of the first coating layer. This configuration results in the technical advantages demonstrated in Table 1, examples 1-5 and comparative example 1, of the present invention. Simply stated, it is essential to the present invention that the second coating layer be flexible enough to assure that cracks do not form even when cracking occurs in the first coating layer so as to prevent the visualizing dye released from ruptured microcapsules (in the first coating) from oozing out onto the surface and being washed away before detection. The present invention is specifically configured to overcome this very problem.

Turning now to the rejections set forth in the final Office Action mailed December 14, 2006, based on the cited prior art.

In the final Office Action, Claims 1, 2, 4, 5, 9, 10, 12 and 14 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Bilder et al. In making the rejection, the Examiner contends that Bilder et al. contains "all limitations of Claims 1, 2, 4, 5, 9, 10, 12 and 14". However, a close review of Bilder et al. indicates that Bilder et al. fails

to teach or suggest a second coating layer (as an outermost layer) that is flexible enough so as prevent cracks even upon cracking of the first coating layer disposed under the second coating layer. That is, the outermost coating must be able to bend and twist with greater tolerance than the first coating layer so as not to crack and allow the visualizing dye released from ruptured microcapsules in the first coating layer to the outside surface of the structure. More particularly, Bilder fails to teach or suggest that the second coating layer be at least seventeen times more flexible than the first coating layer as recited in claim 2 of present invention.

In view of the foregoing, Bilder et al. does not teach or suggest each and every limitation of the present invention as claimed and therefore it is respectfully requested that the rejection under 35 U.S.C. § 102(b) of Claims 1, 2, 4, 5, 9, 10, 12 and 14 be reconsidered and withdrawn.

Similarly, Claims 1, 2, 4, 6, 9, 10, 12, 14-16, 18 and 20 have been rejected under 35 U.S.C. § 102(b) in the final Office Action as being anticipated by Crites et al.

However, as with Bilder et al., a review of Crites et al. indicates that a coating for the inspection of cracks wherein the outermost layer is more flexible than the inner layer is neither taught or suggested, let alone a coating wherein the outermost layer is seventeen times more flexible than the inner layer.

In fact, the figures in Crites et al. depict fatigue or stress cracks propagated all the way through to the outermost layer of coating, clearly indicating that the outermost layer is not more flexible than the conductive coatings underneath the outermost coating. Thus, for the same reasons discussed in Bilder et al. above, Crites also does not anticipate the claims. Accordingly, it is respectfully requested that the rejection of

Claims 1, 2, 4, 6, 9, 10, 17 14-16, 18 and 20 under 35 U.S.C. § 102(b) be reconsidered and withdrawn.

In the final Office Action prior to filing the RCE, Claims 1-5, 7-14, and 16-20 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Bilder et al. in view of Otsuka (U.S. 4,624,709). As discussed above in the 35 U.S.C. § 102(b) rejection over Bilder et al., Bilder et al. does not teach or suggest a coating for the inspection of cracks wherein the outermost coating layer is more flexible than the innermost coating layer. In making this rejection, it seems that the only reason the Examiner has cited the secondary reference Otsuka was to teach microcapsules that contain nigrosine as the visualizing agent. In fact, in making the rejection the Examiner acknowledged that Bilder et al. does “not teach that the microcapsules contain nigrosine as the dye.” (See Office Action, page 5, last line.) Therefore, for the reason discussed above in the 35 U.S.C. §102 (b) rejection, Bilder et al. in combination with Otsuka does not teach or suggest a coating for the inspection of cracks in a structure that contains an outermost coating layer that is more flexible than an inner coating layer as claimed since Otsuka does not correct this factual defect of Bilder et al.

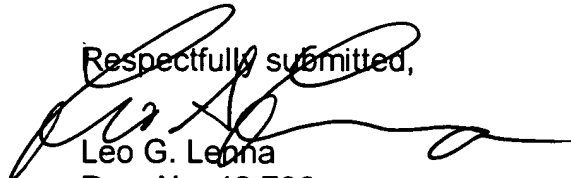
Accordingly, it is respectfully requested that the rejection of Claims 1-5, 7-4 and 16-20 under 35 U.S.C. § 103(a) be reconsidered and withdrawn.

Similarly, Claims 1-20 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Crites et al. in view of Otsuka. For the same reasons stated in the 35 U.S.C. §103 rejection combining Bilder et al. and Otsuka above, the combination of Crites and Otsuka is equally as flawed. That is, since Crites et al. fails to teach or suggest a coating system for the detection of cracks that comprises an outer coating

layer that is more flexible than the inner coating layer and Otsuka fails to cure this factual deficiency. Therefore, in view of the foregoing, it is respectfully requested that the rejection under 35 U.S.C. § 103(a) over Crites in view of Otsuka also be reconsidered and withdrawn.

Finally, the Applicants respectfully note that including Claim 3 (which recites nigrosine as the visualizing agent) in the rejection under 35 U.S.C. §102 (b) over Crites et al. discussed above is in direct contradiction of the Examiner's statement acknowledging that Crites et al. does not teach or suggest the use of nigrosine. Although, for the reasons discussed above, the Applicants believe that the rejection of all Claims under 35 U.S.C. § 102(b) over Crites et al. should be reconsidered and withdrawn, it is respectfully asserted that for this additional reason this rejection as for Claim 3 should be reconsidered and withdrawn.

In view of the foregoing remarks, entry of all amendments and allowance of all Claims is respectfully requested.

Respectfully submitted,

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